

AMENDMENT TO THE CLAIMS

1. (Currently Amended) A combinatorial lubricating oil composition library comprising lubricating oil composition property data for a vast number of a plurality of different lubricating oil compositions comprising (a) a major amount of at least one base oil of lubricating viscosity and (b) a minor amount of at least one lubricating oil additive, wherein the plurality of different lubricating oil compositions is at least 20 and further wherein the plurality of different lubricating oil compositions have a phosphorous content at or below 0.08 wt. % and a sulfur content below 0.2 wt. %.

2. (Original) The combinatorial lubricating oil composition library of claim 1, wherein the at least one base oil is selected from the group consisting of engine oils, transmission fluids, hydraulic fluids, gear oils, marine cylinder oils, compressor oils, refrigeration lubricants and mixtures thereof.

3. (Original) The combinatorial lubricating oil composition library of claim 1, wherein the at least one base oil has a viscosity of about 2 to about 2000 centistokes (cSt) at 100°C.

4. (Original) The combinatorial lubricating oil composition library of claim 1, wherein the at least one base oil has a kinematic viscosity of about 2 cSt to about 30 cSt at 100°C.

5. (Original) The combinatorial lubricating oil composition library of claim 1, wherein the at least one base oil has a kinematic viscosity of about 3 cSt to about 16 cSt at 100°C.

6. (Original) The combinatorial lubricating oil composition library of claim 1, wherein the at least one base oil has a kinematic viscosity of about 4 cSt to about 12 cSt at 100°C.

7. (Original) The combinatorial lubricating oil composition library of claim 1, wherein the at least one base oil has a SAE Viscosity Grade of 0W, 0W-20, 0W-30, 0W-40, 0W-50, 0W-60, 5W, 5W-20, 5W-30, 5W-40, 5W-50, 5W-60, 10W, 10W-20, 10W-30, 10W-40, 10W-50, 15W, 15W-20, 15W-30 or 15W-40.

8. (Original) The combinatorial lubricating oil composition library of claim 1, wherein the at least one base oil is a natural or synthetic oil.

9. (Original) The combinatorial lubricating oil composition library of claim 1, wherein the at least one lubricating oil additive is selected from the group consisting of antioxidants, anti-wear agents, detergents, rust inhibitors, dehazing agents, demulsifying agents, metal deactivating agents, friction modifiers, pour point depressants, antifoaming agents, co-solvents, package compatibilisers, corrosion-inhibitors, ashless dispersants, dyes, extreme pressure agents and mixtures thereof.

10. (Original) The combinatorial lubricating oil composition library of claim 2, wherein the at least one lubricating oil additive is selected from the group consisting of antioxidants, anti-wear agents, detergents, rust inhibitors, dehazing agents, demulsifying agents, metal deactivating agents, friction modifiers, pour point depressants, antifoaming agents, co-solvents, package

compatibilisers, corrosion-inhibitors, ashless dispersants, dyes, extreme pressure agents and mixtures thereof.

11. (Original) The combinatorial lubricating oil composition library of claim 3, wherein the at least one lubricating oil additive is selected from the group consisting of antioxidants, anti-wear agents, detergents, rust inhibitors, dehazing agents, demulsifying agents, metal deactivating agents, friction modifiers, pour point depressants, antifoaming agents, co-solvents, package compatibilisers, corrosion-inhibitors, ashless dispersants, dyes, extreme pressure agents and mixtures thereof.

12. (Original) The combinatorial lubricating oil composition library of claim 4, wherein the at least one lubricating oil additive is selected from the group consisting of antioxidants, anti-wear agents, detergents, rust inhibitors, dehazing agents, demulsifying agents, metal deactivating agents, friction modifiers, pour point depressants, antifoaming agents, co-solvents, package compatibilisers, corrosion-inhibitors, ashless dispersants, dyes, extreme pressure agents and mixtures thereof.

13. (Original) The combinatorial lubricating oil composition library of claim 5, wherein the at least one lubricating oil additive is selected from the group consisting of antioxidants, anti-wear agents, detergents, rust inhibitors, dehazing agents, demulsifying agents, metal deactivating agents, friction modifiers, pour point depressants, antifoaming agents, co-solvents, package

compatibilisers, corrosion-inhibitors, ashless dispersants, dyes, extreme pressure agents and mixtures thereof.

14. (Original) The combinatorial lubricating oil composition library of claim 6, wherein the at least one lubricating oil additive is selected from the group consisting of antioxidants, anti-wear agents, detergents, rust inhibitors, dehazing agents, demulsifying agents, metal deactivating agents, friction modifiers, pour point depressants, antifoaming agents, co-solvents, package compatibilisers, corrosion-inhibitors, ashless dispersants, dyes, extreme pressure agents and mixtures thereof.

15. (Original) The combinatorial lubricating oil composition library of claim 7, wherein the at least one lubricating oil additive is selected from the group consisting of antioxidants, anti-wear agents, detergents, rust inhibitors, dehazing agents, demulsifying agents, metal deactivating agents, friction modifiers, pour point depressants, antifoaming agents, co-solvents, package compatibilisers, corrosion-inhibitors, ashless dispersants, dyes, extreme pressure agents and mixtures thereof.

16. (Original) The combinatorial lubricating oil composition library of claim 8, wherein the at least one lubricating oil additive is selected from the group consisting of antioxidants, anti-wear agents, detergents, rust inhibitors, dehazing agents, demulsifying agents, metal deactivating agents, friction modifiers, pour point depressants, antifoaming agents, co-solvents, package

compatibilisers, corrosion-inhibitors, ashless dispersants, dyes, extreme pressure agents and mixtures thereof.

17. (Cancelled)

18. (Currently Amended) The combinatorial lubricating oil composition library of claim [[17]] 1, wherein the lubricating oil composition property data is selected from the group consisting of storage stability data, oxidation stability data, antiwear data and mixtures thereof.

19. (Original) The combinatorial lubricating oil composition library of claim 18, wherein the storage stability data comprises a sedimentation measurement, color measurement or a viscosity measurement.

20. (Currently Amended) A high throughput method for producing a combinatorial lubricating oil composition library, under program control, comprising

(a) providing a library of a vast number of a plurality of different lubricating oil composition samples comprising (i) a major amount of at least one base oil of lubricating viscosity and (ii) a minor amount of at least one lubricating oil additive, each sample being in a respective one of a plurality of test receptacles, wherein the plurality of different lubricating oil compositions is at least 20 and further wherein the plurality of different lubricating oil compositions have a phosphorous content at or below 0.08 wt. % and a sulfur content below 0.2 wt. %;

- (b) measuring lubricating oil composition properties of each sample to provide lubricating oil composition property data for each sample; and,
- (c) outputting the results of step (b).

21. (Original) The method of claim 20, wherein the at least one base oil is selected from the group consisting of engine oils, transmission fluids, hydraulic fluids, gear oils, marine cylinder oils, compressor oils, refrigeration lubricants and mixtures thereof.

22. (Original) The method of claim 20, wherein the at least one base oil is a natural or synthetic oil.

23. (Original) The method of claim 20, wherein the at least one lubricating oil additive is selected from the group consisting of antioxidants, anti-wear agents, detergents, rust inhibitors, dehazing agents, demulsifying agents, metal deactivating agents, friction modifiers, pour point depressants, antifoaming agents, co-solvents, package compatibilisers, corrosion-inhibitors, ashless dispersants, dyes, extreme pressure agents and mixtures thereof.

24. (Original) The method of claim 20, wherein measuring step (b) comprises a storage stability measurement, oxidation stability measurement, or antiwear measurement.

25. (Original) The method of claim 24, wherein the storage stability measurement comprises a sedimentation measurement, color measurement or a viscosity measurement.

26. (Previously Presented) The method of claim 20, wherein in step (c) the result of step (b) for each sample is transmitted to a computer, the computer compares the result with a predetermined value delimiting a failure or passing of the result, and the computer identifies failed samples to preclude further testing of the failed samples.

27. (Original) The method of claim 20, wherein the step (c) of outputting comprises storing the results of step (b) on a data carrier.

28. (Original) The method of claim 20, further comprising the step of using the results of step (b) as a basis for obtaining a result of further calculations.

29. (Original) The method of claim 27, further comprising the step of transmitting the result of step (b) to a remote location.

30. (Original) The method of claim 28, further comprising the step of transmitting the result of further calculations to a remote location.

31. (Previously Presented) The combinatorial lubricating oil composition library of Claim 1, wherein the plurality of different lubricating oil compositions is at least 100.

32. (Previously Presented) The method of Claim 20, wherein the plurality of different lubricating oil compositions is at least 100.

33. (New) A combinatorial lubricating oil composition library comprising lubricating oil composition property data for each of a plurality of different lubricating oil compositions comprising (a) a major amount of at least one base oil of lubricating viscosity and (b) a minor amount of at least one lubricating oil additive, wherein the plurality of different lubricating oil compositions is at least 20, and further wherein the lubricating oil composition property data is derived from conditions associated with an engine test.

34. (New) The combinatorial lubricating oil composition library of Claim 33, wherein the lubricating oil composition property data is antiwear data derived from an extreme wear condition occurring between the piston ring and cylinder wall in a running internal combustion engine when the piston reaches the upper dead center and is subjected to the force of the fuel combustion explosion while the piston is for an instant not in sliding motion.

35. (New) The combinatorial lubricating oil composition library of Claim 33, wherein the lubricating oil composition property data is antiwear data derived from a hydrodynamic lubricant condition occurring in an internal combustion engine between the piston rings and cylinder wall when the piston is in sliding motion during the stroke.